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CLAIMS

[Claim(s)]

[Claim 1]It has a directing means which directs an output of a game scene displayed by display screen during game execution, A reappearance means to reproduce said game scene in a game machine which outputs game scene reproducing information including game history information which has timing information of output instruction by this directing means, control information on a performed game, and game operation information, A receiving means which receives said game scene reproducing information outputted from said game machine, A game scene regeneration machine ****(ing), reproducing a game scene in which output instruction was carried out by said directing means according to said game history information which this receiving means received by said reappearance means, and outputting image data of a reproduced game scene.

[Claim 2]The game scene regeneration machine according to claim 1 which said reappearance means performs game software for regeneration of the same game as a game which said game machine performs, and reproduces said said game scene by which output instruction was carried out.

[Claim 3]The game scene regeneration machine according to claim 1 or 2 which is the image data of a picture in which image data of said game scene outputted is more highly defined than image data of a game scene displayed on said display screen of said game machine.

[Claim 4]The game scene regeneration machine according to claim 3 in which said high-definition image data is image data of a picture with at least one [high] of spatial resolving power, gradation resolution, and the number of drawing polygons from image data of a game scene of said game machine.

[Claim 5]Said high-definition image data is image processing other than image processing at the time of game execution by said game machine performed image data, and said another image processing, Texture mapping, bump mapping, fog, alpha lending, Bi-linear filtering, try linear filtering, a MIPPU map, Antialiasing, a multipass rendering, a radiosity rendering, The game scene regeneration machine according to claim 3 or 4 which is at least one CG art chosen from a group which consists of a ray-tracing, fractal, random fractal, and fractal noise, a cellular automaton, Bezier, a spline, and NURBS.

[Claim 6]The game scene regeneration machine according to any one of claims 1 to 5 which is the image data to which at least one of finish processing with special image data of said game scene outputted and the regeneration from a different viewpoint was given.

[Claim 7]A game scene regeneration machine which is the game scene regeneration machine according to any one of claims 1 to 6, and is characterized by having an image data transformation means which changes image data of said reproduced game scene into output image data according to an output form further.

[Claim 8]The game scene regeneration machine according to claim 7 which is at least one of the image data transfer to which said output form passes an output of a print, record to an image-data-recording medium, and a communications network.

[Claim 9]A game scene regeneration machine which is the game scene regeneration machine according to any one of claims 1 to 8, and is characterized by having a comment information adding means which adds comment information to a picture of said game scene outputted

further.

[Claim 10]In addition to said game history information, said game scene reproducing information Ordering information of a picture of said game scene outputted, Including at least one of orderer identification information and the comment information, said game machine, The game scene regeneration machine according to any one of claims 1 to 9 which adds to said game history information and outputs said game scene reproducing information containing at least one of ordering information of a picture of said game scene outputted, orderer identification information, and the comment information.

[Claim 11]Said game scene reproducing information outputted by said game machine, The game scene regeneration machine according to any one of claims 1 to 10 which is a means by which a dismountable memory equipped with or connected to said game machine memorizes, and said receiving means reads said game scene reproducing information in said dismountable memory.

[Claim 12]Said receiving means is connected to a memory built in, equipped with or connected to said game machine or said game machine via a communications network, and said game machine, After memorizing in said memory directly or once built in, equipped with or connected to said game machine, output said game scene reproducing information to said communications network, and said receiving means, The game scene regeneration machine according to any one of claims 1 to 10 which receives said game scene information via said communications network.

[Claim 13]A game scene regeneration system comprising:

A game machine which outputs game scene reproducing information including game history information which has a directing means which directs an output of a game scene displayed by display screen during game execution, and has timing information of output instruction by this directing means, control information on a performed game, and game operation information.

A reappearance means to reproduce said game scene in this game machine.

It has a means to receive said game scene reproducing information outputted from said game machine, A game scene regeneration machine which reproduces a game scene in which output instruction was carried out by said directing means by said reappearance means, and outputs image data of a reproduced game scene according to said game history information which this receiving means received.

A communications network which connects said game machine and said game scene regeneration machine.

[Claim 14]The game scene regeneration system according to claim 13 which said reappearance means performs game software for regeneration of the same game as a game which said game machine performs, and reproduces said said game scene by which output instruction was carried out.

[Claim 15]A game scene regeneration system which is provided with the following and characterized by at least one of said two or more of the game machines outputting said game scene reproducing information of said game scene directed by said directing means to a receiving means of said game scene regeneration machine via said communications network. It has a directing means which directs an output of a game scene displayed by display screen during game execution, respectively, Two or more game machines which output game scene reproducing information including timing information of output instruction by this directing means, control information on a performed game, and game history information that has game operation information.

A reappearance means to reproduce said game scene in at least one of the game machines of these.

It has a means to receive said game scene reproducing information outputted from at least one of said the game machines, A game scene regeneration machine which reproduces a game scene in which output instruction was carried out by said directing means by said reappearance means, and outputs image data of a reproduced game scene according to said game history information on said game scene reproducing information which this receiving means received.

A communications network which connects said two or more game machines and said game scene regeneration machine.

[Claim 16]The game scene regeneration system according to claim 15 which said reappearance means performs game software for regeneration of the same game as a game which said game machine performs, and reproduces said said game scene by which output instruction was carried out.

[Claim 17]The game scene regeneration system according to claim 15 or 16 which said communications network is a two-way communication network, and said game scene regeneration machine outputs image data of said game scene reproduced by said reappearance means to said two or more game machines, and is displayed on said display screen.

[Claim 18]Image data of said game scene reproduced with said game scene regeneration machine, The game scene regeneration system according to any one of claims 15 to 17 which is an aggregate image which it is displayed on said display screen of each game machine of specific Memba as a reappearance picture, and this reappearance picture shows at least one of ranking between said specific Memba, and the results.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention belongs to the technical field of a game scene regeneration machine and a system, and is a computer-game machine (in this invention.) in detail. It is related with the regeneration machine and system reproducing the scene of the game displayed on the display screen in only calling it a game machine etc. of a game which can be preferably outputted as a picture reproduced by high definition.

[0002]

[Description of the Prior Art]In some computer-game machines (the game software = application), the whole surface of the scene (game scene) of the game displayed by the display screen of a display during execution of a game and service which outputs the part as a print of a seal, a poster, etc. are offered. It is the game scene (scene) considered that the operator (player) of a game wants to print and output this print service during execution of a game, and that is inputted by the button and command which were set as the game machine. By being recorded on the memory built in a game cartridge etc., and a memory for exclusive use, carrying this memory into a print contractor, and requesting print creation, the print which reproduced the game scene for which it asks is created, and this information is supplied to a user.

[0003]In the print service of such a game scene, it is possible to memorize the image data of a game scene in a memory as it is, to supply it to a printer, to perform predetermined processing, and to output as a print.

[0004]However, by recent years, if the picture of the game scene of the display screen in a game machine is a display screen of a display, it will be considered to have secured sufficient image quality, but. When a game scene is outputted as a print using this image data, it can never be said that it is enough in image quality in respect of spatial resolving power, density resolution, etc. Since expansion of the picture by image data processing is accompanied by degradation of image quality, the size of a print is also restricted. Although how to improve in the image quality of the game scene of a display screen itself is also considered, The image data quantity which a memory is made to memorize increases dramatically, and also it will be necessary to also raise substantially the image display performance of the display of a game machine body or game software, and will become very [in cost] disadvantageous in this method.

[0005]

[Problem(s) to be Solved by the Invention]The 1st purpose of this invention is to solve the problem of said conventional technology, Especially the arbitrary game scenes under game execution in a computer-game machine as the reproduced picture of one sheet or two or more continuous pictures (video), a high definition picture, or high-definition video, For example, it outputs as a print of a photoprint, a seal print, a poster, an index print, etc., Or it is in providing the game scene regeneration machine and system which make it possible to output to an image-data-recording medium as image data of such a picture, or to transmit via communications networks, such as the Internet. The 2nd purpose of this invention is to provide the game scene regeneration system which can raise the enjoyableness of the operator of two or more computer-game machines connected to the game scene regeneration machine via

communications networks, such as the Internet, in addition to the 1st purpose of the above.

[0006]

[Means for Solving the Problem] In order to attain the 1st purpose of the above, the 1st mode of this invention, It has a directing means which directs an output of a game scene displayed by display screen during game execution, A reappearance means to reproduce said game scene in a game machine which outputs game scene reproducing information including game history information which has timing information of output instruction by this directing means, control information on a performed game, and game operation information, A receiving means which receives said game scene reproducing information outputted from said game machine, It **** and a game scene regeneration machine reproducing a game scene in which output instruction was carried out by said directing means by said reappearance means, and outputting image data of a reproduced game scene according to said game history information which this receiving means received is provided.

[0007] The 2nd mode of this invention has a directing means which directs an output of a game scene displayed by display screen during game execution, A game machine which outputs game scene reproducing information including timing information of output instruction by this directing means, control information on a performed game, and game history information that has game operation information, It has a reappearance means to reproduce said game scene in this game machine, and a means to receive said game scene reproducing information outputted from said game machine, A game scene regeneration machine which reproduces a game scene in which output instruction was carried out by said directing means by said reappearance means, and outputs image data of a reproduced game scene according to said game history information which this receiving means received, A game scene regeneration system having a communications network which connects said game machine and said game scene regeneration machine is provided.

[0008] In order to attain the 2nd purpose of this invention, the 3rd mode of this invention, It has a directing means which directs an output of a game scene displayed by display screen during game execution, respectively, Two or more game machines which output game scene reproducing information including timing information of output instruction by this directing means, control information on a performed game, and game history information that has game operation information, A reappearance means to reproduce said game scene in at least one of the game machines of these, It has a means to receive said game scene reproducing information outputted from at least one of said the game machines, According to said game history information on said game scene reproducing information which this receiving means received, A game scene regeneration machine which reproduces a game scene in which output instruction was carried out by said directing means by said reappearance means, and outputs image data of a reproduced game scene, Have a communications network which connects said two or more game machines and said game scene regeneration machine, and at least one of said two or more of the game machines. A game scene regeneration system outputting said game scene reproducing information of said game scene directed by said directing means to a receiving means of said game scene regeneration machine via said communications network is provided. In this 3rd mode, said communications network is a two-way communication network, and, as for said game scene regeneration machine, it is preferred to output image data of said game scene reproduced by said reappearance means to said two or more game machines, and to make it display on said display screen.

[0009] Here, as for said reappearance means, it is preferred to perform game software for regeneration of the same game as a game which said game machine performs, and to reproduce said said game scene by which output instruction was carried out. As for image data of said game scene outputted, it is preferred that it is the image data of a picture more nearly high-definition than image data of a game scene displayed on said display screen of said game machine. Image data of said high-definition picture has a thing with at least one [high] of spatial resolving power, gradation resolution, and the number of drawing polygons more preferred than image data of a game screen of said game machine.

[0010] Said high-definition image data is image processing other than image processing at the

time of game execution by said game machine performed image data, and said another image processing, Texture mapping, bump mapping, fog, alpha lending, Bi-linear filtering, try linear filtering, a MIPPU map, Antialiasing, a multipass rendering, a radiosity rendering, It is preferred that it is at least one CG art chosen from a group which consists of a ray-tracing, fractal, random fractal, and fractal noise, a cellular automaton, Bezier, a spline, and NURBS. As for image data of said game scene outputted, it is preferred that it is the image data to which at least one of special finish processing and the regeneration from a different viewpoint was given.

[0011]As for the above-mentioned game scene regeneration machine, it is preferred to have an image data transformation means which changes image data of said reproduced game scene into output image data according to an output form further. Here, as for said output form, it is preferred that it is at least one of the image data transfer through an output of a print, record to an image-data-recording medium, and a communications network. As for the above-mentioned game scene regeneration machine, it is preferred to have a comment information adding means which adds comment information to a picture of said game scene outputted further.

[0012]In addition to said game history information, said game scene reproducing information Ordering information of a picture of said game scene outputted, Said game machine is added to said game history information including at least one of orderer identification information and the comment information, and it is preferred to output said game scene reproducing information containing at least one of ordering information of a picture of said game scene outputted, orderer identification information, and the comment information.

[0013]Said game scene reproducing information outputted by said game machine is memorized by dismountable memory equipped with or connected to said game machine, and, as for said receiving means, it is preferred that it is a means to read said game scene reproducing information in said dismountable memory. Said receiving means is connected to a memory built in, equipped with or connected to said game machine or said game machine via a communications network, and said game machine, As for said receiving means, after memorizing in said memory directly or once built in, equipped with or connected to said game machine, said game scene reproducing information is outputted to said communications network, and it is preferred to receive said game scene information via said communications network. Image data of said game scene reproduced with said game scene regeneration machine is displayed on said display screen of each game machine of specific Memba as a reappearance picture, and, as for this reappearance picture, it is preferred that it is an aggregate image in which at least one of ranking between said specific Memba and the results is shown.

[0014]

[Embodiment of the Invention]The game scene regeneration machine and system concerning this invention are explained in detail below based on the preferred embodiment shown in an attached drawing.

[0015]The game scene regeneration machine of the 1st mode of this invention, [when performing the game with the computer-game machine (it is hereafter considered as a game machine)], The operator (player) of a game chooses the picture (game scene) displayed on the display screen of the display at the arbitrary times, Creation of the print of the reappearance picture of the game scene, and acquisition of the image data (incorporation of the image data to the game machine through communications networks with which image data was recorded, such as acquisition of an image-data-recording medium and the Internet, the computer of the stock of the player, etc.), Namely, it is for outputting the image data of the reappearance picture which inputted directions of the output of game scene reproducing information, and reproduced the game scene (or the arbitrarily selected part) or the continuous game scene, The print of the seal and poster of a reappearance picture, a photoprint, an index print, etc. is outputted using the image data of such a reappearance picture, Or it is used suitably for the printing system etc. which are outputted to an image-data-recording medium as image data of such a reappearance picture, or are transmitted via communications networks, such as the Internet.

[0016]Such a printing system is a system which can also function as a game scene regeneration system of the 2nd and 3rd modes of this invention. Especially the game scene regeneration system of the 3rd mode of this invention, The game scene regeneration machine of the 1st mode

of the above and two or more computer-game machines are connected via communications networks, such as the Internet, The reproducing information of the arbitrary game scenes under game execution is outputted to a game scene regeneration machine via a communications network with at least one game machine, The picture of a game scene is reproduced from the game scene reproducing information acquired in the game scene regeneration machine, processings remaining as it is or various are performed, and it distributes to two or more game machines via a communications network.

[0017]The notional block diagram of one example of the printing system which functions as a game scene regeneration machine system of the 2nd mode using the game scene regeneration machine of the 1st mode of this invention of this invention is shown in drawing 1. the printing system 10 shown in drawing 1 -- a customer (the client of print creation.) Usually, it is connected to the game machine 12 and the game machine 12 which the player of a game machine owns, The game units 18 which have the memory 16 with which the display 14 and the game machine 12 which display a game scene on the display screen are equipped (or connection or built-in), It has with the driver 24 of the printer 22 which outputs the print P connected to the game scene regeneration machine (henceforth a regeneration machine) 20 and the regeneration machine 20 by the side of print service contractors (or image data distribution contractor), such as a lab, and the image-data-recording medium R.

[0018]A game is performed to the game machine 12 and operation of games which appear in a game, such as movement of a character, operation, an input of a command, and the controller 26 for performing the input of ordering information or comment information the output instruction of a game scene and if needed further are connected to it. Software required to reproduce the game scene of the game performed with the game machine 12 to the regeneration machine 20, Image processing and data processing which are performed to the image data of the reappearance picture of the game scene outputted, The data input device 30 for inputting the database 28 and these which memorize the contents of processing of the image data conversion according to the output form of the reappearance picture of this game scene, the comment information added or compounded by the image data outputted, etc. from the outside is connected. The regeneration machine 20 and the database 28 are connected to the game software supply source 32 for downloading game software, new game software, etc. which it does not have.

[0019]The database 34 which memorizes various kinds of information, including the data about the past print output, a customer's information, etc., is connected to the printer 22. The customer has the high-definition image displaying units 36, such as a personal computer for displaying a high-definition picture, independently [the game units 18] further again. It is connected by the online correspondence networks (only henceforth a communications network) 38, such as the Internet, between the game units 18 (game machine 12) and the high-definition image displaying unit 36, and the regeneration machine 20.

[0020]In the printing system 10 to be used, this invention the game machine 12 (game software performed with the game machine 12), At the arbitrary times at the time of the picture (scene) with which a player is pleased during execution of a game being displayed on the display 14 in addition to the execution function of the usual game etc. A player outputs as the image-data-recording medium R by which the image data was recorded by considering the game scene as the print P, Or in the function (henceforth [it names generically and] an output instruction function) to direct to acquire the image data via the communications networks 38, such as the Internet, and the game performed with the game machine 12, After making the memory 16 once make memorize it the memory 16 or memorize the game scene reproducing information which includes at least the game history information on the game scene by which output instruction was carried out with the player, it has a function directly distributed to the regeneration machine 20 via the communications network 38 from the game machine 12.

[0021]In the printing system 10 using this invention shown in drawing 1, Output forms, such as an on-line output which outputs the print output which outputs the print P, the medium output which outputs the image-data-recording medium R, and the image data itself via the communications network 38, can be taken, According to such an output form, output instruction,

such as directions (print instruction) of a print output, directions (medium directions) of a medium output, and directions (on-line directions) of an on-line output, can be performed, respectively.

[0022] In such various output forms, the animation which consists of two or more reappearance pictures which reproduced not only the still picture that reproduced a certain game scene but the continuous game scene can also be outputted. In the case of an animation, it is preferred to use two or more pictures as the index print serially reproduced on the print of one sheet in a print output. moreover -- also setting to which output form in the case of a still picture -- two or more scenes (game scene) -- the yne deck -- or it may edit in the style of an album. At this time, a top row, size, a marginal pattern, a comment field, etc. can be edited freely. Even if it is a case of an animation, of course in which output form, it may edit similarly. It is still more desirable, when reproducing an animation, and voice data in a game is also high-quality-sound-ized more and is added with the regeneration machine 20.

[0023] Also in which output form, comment information can also be added to the image data of the reappearance picture which reproduced the game scene by which output instruction was carried out. The comment information which the player which is a customer has as such comment information, or is prepared or inputted, The comment information prepared by a print service contractor or an image data distribution contractor (henceforth [it names generically and] a service industry company) with the regeneration machine 20, etc. can be mentioned. The text data in which a customer expects an addition of a reappearance picture as comment information by the side of a customer to provide. (For example, alphabetic data, such as favorite language and a phrase) Image data, such as a customer's handwritten character and photographed image data, favorite animation, and its character image data, voice data, etc. can be raised, and it may compound in a reappearance picture, and may add in the form attached to a reappearance picture. For example, in a print, it may compound in a picture and picture outside is (for example, it may compound around a pearlitic rim etc. and may record on a rear face.). in addition -- responding at necessity in the case of voice data -- visualization, i.e., alphabetic-data-izing, -- or it may image-data-ize and picture composition may be carried out -- it may attach by carrying out.

[0024] Also as comment information which a service industry company provides, text data, Image data, such as a still picture and/or an animation, voice data, etc. can be mentioned, For example, a character, a picture, etc. which were decided when the specific scene of the game performed was cleared, For example, text data, such as data [for every scene / "congratulations" etc.], and an advertisement of other service industry company offers, and image data, The game obtained with reference to the data stored in the database 28 connected to the regeneration machine 20, or the clearance (achievement) ranking of the player about a specific game scene, For example, it may compound or attach and "the how many persons you are", the data of "a what [the] place rank [!!]" etc., the game of a player or the "attestation mark" for the proof of a specific game scene clearance, etc. may be added.

[0025] The transmission to the regeneration machine 20 from the game units 18 of the game scene reproducing information which includes the game history information created with the game machine 12 in this invention, As a dotted line shows to drawing 1, the memory 16 etc. which were equipped with or connected to the game machine 12 remove, and memorize to the portable memory medium which can be carried and the memory 16 is removed from the game machine 12, the place in which the regeneration machine 20 was installed physically, for example, the method of carrying to a print service contractor (lab), -- once -- the memory 16 (even if it is an internal memory) in the game machine 12 For it to be by the portable memory mentioned above even if it is external memory After accumulation, Game scene reproducing information created with the method and the game machine 12 which are transmitted by the communications network 38 course shown by the drawing 1 inner substance line to predetermined timing can be performed by various transfer forms, such as the method of transmitting immediately by communications network 38 course.

[0026] However, this invention does not need to be provided with all these output forms and transfer forms, and just performs at least one of the at least one and above-mentioned transfer

forms of the above-mentioned output form. The most fundamental invention of this invention is a print output by print instruction as an output form. It is only a reappearance picture of the game scene by which print instruction was carried out as the print P. As a transfer form, are off-line and a portable memory is used as the memory 16. Although it is a game scene regeneration machine which is carried physically and which is a method and is game history information as game scene reproducing information and is a game scene regeneration system which comprises the regeneration machine 20, the game units 18, and the printer 22 in drawing 1. As for this invention, it is needless to say that it is not necessarily limited to these.

[0027] Using the controller 26, command input of the output instruction, such as print instruction according to an output form, may be carried out, it may install dedicated buttons in game machine 12 the very thing or the controller 26, and may perform them with these dedicated buttons. Or an input device is formed in the game machine 12, and command input may be carried out using this input device, or it may direct directly. Limitation is not carried out at once (namely, 1 game scene), but according to the capacity of the memory 16, etc., output instruction, such as print instruction, is good in how many times line to arbitrary timing during execution of a game, and with one output instruction. Output instruction of two or more game scenes or two or more continuous game scenes (for example, the continuous still picture or an animation) may be performed.

[0028] The ordering information which specifies specification of the output form which was mentioned above to the game machine 12 in addition to the output instruction function, and its details. The function to input into a print or image data the comment information added or compounded is given, and with output instruction information, such as print instruction, ordering information, comment information, etc. according to an output form may be inputted, and it may record on the memory 16. What is necessary is just to perform the input and record of these ordering information, comment information, etc. using the controller 26 or the input device which is not illustrated, and after the stage ends a game also in game execution, the both may be [but] sufficient as it. As for such ordering information, it is preferred to be outputted as game scene reproducing information with the game history information outputted from the game machine 12 by output instruction.

[0029] If specification and its detailed specification of the output form mentioned above can be performed as such ordering information, If it is a print output, according to the output form specified especially, for example rather than restrictive The size, the number of sheets, the quality of paper, and the finished state of each print, If the receipt method of a print, the payment method of a price, etc. are a medium output and an on-line output, a data format (format), If it is data size, a data compression level, and a medium output, the kind of image-data-recording medium, if it is an on-line output -- the destination (1 or multidata input) -- the specification information on the kind of data processing, such as customer data (an on-line output especially discernment (ID) information etc.), image processing, and special finishing, or the contents, various kinds of option directions information, etc. can be mentioned in common.

[0030] As game scene reproducing information used for this invention, Although it is preferred to include game history information, ordering information, comment information by a player, etc. on the game scene by the output instruction of a player, This invention is not limited to this, but if it includes at least the information which can reproduce the game scene directed with the game machine 12, what kind of information may be sufficient as it, for example, it should just include game history information at least. Such game history information is information for reproducing the game scene by which output instruction was carried out with the game software for regeneration of the same game that the regeneration machine 20 mentioned later has, For example, it comprises timing information (timing of the serial output instruction in advance of a game) of the output instruction by a player, internal-control information in a game, including scene-setting, a transaction data, etc., time series information of operation by the player in execution of a game, etc. The game history information needs to memorize no advance hysteresis information of the game corresponding to creation of reappearance pictures, such as print creation, creation of an image-data-recording medium, and an on-line output of image data, The information on the editing data etc. which can reproduce the game scene directed with the

game machine 12 is included at least, it ****s, and information (data) unnecessary to the reappearance of a game scene by which output instruction was carried out may be deleted one by one.

[0031]In the printing system 10 using this invention, there is no limitation in particular in the memory 16 attached to the game machine 12, Publicly known storages, such as a floppy (registered trademark) disk (FD), a hard disk (HD), a flash memory, an IC memory, MO, CD-R, and DVD, are available in some numbers. As long as the game machine 12 is a thing of a type which loads with the game cassette (cartridge) etc. which contain ROM etc. which memorize game software, and performs a game, the memory 16 may be built in a game cassette. When transmission to the regeneration machine 20 of the game scene reproducing information recorded on the memory 16 is off-line, Since it is necessary to be a dismountable portable memory, the external memory of the type equipped with or connected to the game machine 12 is preferred, but when it is on-line, the memory 16 may be the external memory attached fixed, even if it is internal memories, such as an internal memory. The display 14 may also be a thing of exclusive use [game machine / 12], and may be a monitor and the television for home use of a computer etc.

[0032]In the printing system 10, when a transfer form is off-line, The memory 16 which memorized game scene reproducing information including game history information is removed from the game machine 12, a print service contractor is provided with it by the customer with the request of print creation, a medium output, etc., and a print service contractor's regeneration machine 20 is loaded with it. Ordering information and comment information, including the above-mentioned print number of sheets, various kinds of options, etc., Also besides recording on the above-mentioned memory 16 as game scene reproducing information with game history information, in the case of this request, it may point to a print service contractor in oral, the writing to a request paper, etc., and both may be used together. Limitation is not carried out to this invention removing the memory 16 from the game machine 12, and providing for a print service contractor, but the KEMU scene reproducing information memorized in the memory 16 may once be supplied to a print service contractor using the online correspondence networks 38, such as online communications. On-line transmission may be directly carried out from the game machine 12 at the regeneration machine 20, without memorizing in the memory 16.

[0033]The regeneration machine 20 of this invention reads game scene reproducing information including game history information from the memory 16 which has the game software for regeneration of the same game as the game which a customer has for example, with which it was equipped, Or start the game software for regeneration of the game which read the game scene reproducing information by which on-line transmission was carried out, and was carried out in output instruction, such as a creation request of a print, and. Game scenes by which output instruction was carried out, such as print instruction, are reproduced using the game software for regeneration, and game history information, and the image data of a reappearance picture according to the output form of the print P etc. is outputted.

[0034]The regeneration machine 20 of this invention equips with the memory 16, as shown in drawing 2, The receipt part 40 which receives and reads the game scene reproducing information which read game scene reproducing information from the memory 16 with which it was equipped, or has been transmitted via the online correspondence network 38 from the game machine 12 (or the memory 16), Software for regeneration of the same game as the game by which output instruction was carried out based on the output instruction information of game scene reproducing information is performed, The reappearance part 42 which reproduces the game scene by which output instruction was carried out using game history information, and generates the image data or scene constitution data (for example, data of polygonal representation) of a reappearance picture, The image processing 44 which performs predetermined image processing to the image data of a reappearance picture, and the data processing part 46 which performs data processing, such as special finish processing and regeneration from a different viewpoint, to the image data of the back before image processing, It has the image data converter 48 which changes the image data after image processing or data processing into the image data according to an output form.

[0035]The game software for regeneration which the reappearance part 42 of the regeneration machine 20 has or performs for game scene reappearance, It may not be limited to one, but even if the reappearance part 42 has two or more game software, right [of it] may be carried out, and of course, two or more game software may be performed. Such game software for regeneration, Even if memories, such as a hard disk which the regeneration machine 20 has, memorize, Having been connected to the regeneration machine 20 may memorize at the database 28, Storages, such as CD-ROM with which it can load, the data input device 30, for example, the storage driver, of the regeneration machine 20, MO (optical magnetic recording medium), FD, and removable HD, may memorize. In being the game software which the recording medium with which the game software which neither the reappearance part 42 nor the database 28 holds, and the data input device 30 are loaded is not recording, Based on the game identification information of the game history information on game scene reproducing information, The game software for regeneration may be downloaded via communications networks, such as the Internet, from the game software supply source 32, for example, the maker of an applicable game, or the database of a game providing facility. It may enable it to use what was memorized by the database 24 connected to the printer 22 further again. Of course, various methods mentioned above may be used together.

[0036]Although the game software which a customer's game machine 12 performs, and the game software for regeneration which the reappearance part 42 of the regeneration machine 20 performs are the game software of the same game, here, The game software for regeneration which does not need to be completely the same and the reappearance part 42 of the regeneration machine 20 performs, It is preferred to have the capability to output the image data or scene constitution data of a high definition picture especially about the display image of a game scene so that a picture more nearly high-definition than the game machine 12 can be reproduced. The game software for regeneration which the reappearance part 42 of the regeneration machine 20 performs specifically, It is good to be able to output at least 1 or more [of spatial resolving power, density resolution, and the number of drawing polygons], and the image data of a desirable picture with high all as compared with the game software which a customer's game machine 12 performs. Since what is necessary is just to be able to reproduce the game scene in which the customer did output specification when performing game software for regeneration in the reappearance part 42, it may perform from the beginning, is not necessary to necessarily reproduce advance of a game faithfully, and may start with the middle.

[0037]In the image processing portion 44, image processing which may perform image processing which is not performed or is performed with the game machine 12 may be performed more to an altitude with the game machine 12. As such image processing, texture mapping, bump mapping, Fog, alpha lending, bi-linear filtering, try linear filtering, A MIPPU map, antialiasing, a multipass rendering, a radiosity rendering, CG art, such as a ray-tracing, fractal, random fractal, and fractal noise, a cellular automaton, and the various techniques (Bezier, a spline, NURBS, etc.) of free sculptured surface generation, is illustrated.

[0038]Since there is no necessity for the image display of the game scene in the real time according to execution of the game in the reappearance part 42 of the regeneration machine 20, There are calculation time and sufficient margin for the image data quantity to process, advanced image processing according to high spatial resolving power, density resolution, and the number of drawing polygons can be performed by the image processing portion 44, and it can fully respond to generation and processing of image data high definition [for reproducing a high-definition picture].

[0039]Not only by image processing for reproducing a high-definition picture by the image processing portion 44 in the regeneration machine 20 of this invention but by the data processing part 46. A player specifies or image processing according to liking, for example, image processing for special finishing, (special finish processing), different regeneration from a viewpoint, etc. may be performed. For example, finishing of the animation style of painting of the drawing-in-India-ink style of the watercolor painting style [and] as special finish processing, etc., [of oil painting] The beam-of-light processing etc. which set up monochrome finishing, sepia finishing, other specific color tone finishing, shade-and-shadow processing, a direction,

strength of a light, etc., and the major object can mention change of the background which comes out as it is, a completely different background, the replacement by the picture specified by a customer, etc. What is necessary is just to perform these processings by a publicly known method.

[0040]As regeneration from a different viewpoint, the method of generating the game image (scene) which scrolled, for example in the transverse direction and observed the game scene by which output instruction was carried out from a different viewpoint can be mentioned by a publicly known method. In this way, the picture which changed the viewpoint by customer specification is renewable. Processing of expansion, reduction, trimming, etc. is also included in regeneration from such a different viewpoint. As a result, the picture of the game scene which cannot be seen in the game machine 12 can also be outputted. The stereo image which is a picture from the viewpoint according to an eye on either side as regeneration from a different viewpoint can be created, and the method of making it into 3D (dimension) picture can be mentioned. When a character, a background, etc. in the game performed with the game machine 12 are expressed as 3D data, they are possible for this 3D picture. When the game scene is expressed in 3D (dimension) space, the picture at the time of moving a viewpoint freely in the three-dimensional space of the game scenes, such as a scene seen, for example from the back side of a character, can be created.

[0041]Here specification of the contents of processing in the image processing portion 44 and a data processing part, You may make it contain in the ordering information of game scene reproducing information beforehand by the player side, it may be made to accumulate in the database 28 according to a customer (player) beforehand by the service industry company side, and the data input device 30 may perform each time or beforehand. Although both the regeneration machines 20 of the example of a graphic display have the image processing portion 44 and the data processing part 46, This invention is not limited to this, but may have only either, and both do not have it, but it may carry out the direct output of the reappearance image data of the game scene reproduced in the reappearance part 42 to the image data converter 48. When performing both processing of the image processing portion 44, and processing of the data processing part 46, whichever may be performed first.

[0042]The reappearance image data processed by the reappearance image data reproduced in the reappearance part 42, the reappearance image data by which image processing was carried out by the image processing portion 44, or the data processing part 46 is the image data converter 48, and embraced the output form. "it is changed into output image data, such as a format and size. Namely, when outputted to the printer 22. In the case of an on-line output, it is changed into the output image data according to the image-data-recording medium R used for the output image data for a print suitable for the printer 22 when outputted to the driver 24 at the output image data according to the communications network 38. What is necessary is just to be able to change the image data converter 48 into the output image data according to the set-up output form, when the output form is set as one or two. When the reappearance image data inputted into the image data converter 48 is the output image data according to an output form, it is not necessary to perform image data conversion, and if the number of output forms is one, it is not necessary to provide image data converter 48 the very thing. The ordering information of game scene reproducing information may perform specification of an output form to the image data converter 48 by the player side, and the data input device 30 may perform by the service industry company side.

[0043]After the game scene which was reproduced with the regeneration machine 20 in the case of the print output is used as the output image data for print creation based on the printer 22 in this way, it is outputted to the printer 22. The printer 22 is a publicly known printer, performs processing of predetermined [such as gradation adjustment, a color/concentration adjustment] to the supplied image data, and outputs it to it as a print (hard copy). As mentioned above, when print instruction of the animation of two or more game scenes or a game scene is performed, as shown in drawing 3, the picture of index print IP which summarized these on the print of one sheet may be generated. The printer 22 may generate the picture (image data) of this index print IP. Index print IP shown in drawing 3 has comment information in the upper part with two or

more pictures.

[0044]In the printing system 10 using this invention, there is no limitation in particular in the printer 22. The printer which is available in some numbers as for a publicly known color printer, for example, carries out scanning exposure of the photosensitive materials (photosensitive heat developing material) by a laser beam, and performs a development. An electro photographic printer, an ink-jet printer, a thermal head printer, a heat mode laser beam printer, a thermal transfer printer, etc. are illustrated.

[0045]In the case of a medium output, the game scene reproduced with the regeneration machine 20 is used as the output image data for image-data-recording media in this way, and is outputted to the driver 24. The driver 24 is a publicly known driver for image-data-recording media, records output image data on the image-data-recording medium R, and outputs the image-data-recording medium R. The image-data-recording medium R is carried off-line by the high-definition image displaying unit 36 by the side of a customer, the driver of the built-in which is not illustrated is loaded with it, and the read output image data is displayed as a high-definition picture. The image-data-recording medium R in particular used for this invention can mention publicly known image-data-recording media, such as a floppy disk (FD), a removable hard disk (HD), MO, CD-R, DVD, an IC memory, SmartMedia, and ZIP, etc., for example rather than is restrictive.

[0046]The reappearance image data of the game scene which was reproduced with the regeneration machine 20 in the case of the on-line output is used as the output image data for online correspondences, and is outputted to the communications network 38. The communications network 38 is a publicly known distribution network, output image data is distributed to the high-definition image displaying unit 36 or the game units 18 connected to the communications network, and the game units 18 which can display the high-definition image displaying unit 36 or a high-definition picture display output image data as a high-definition picture. In the game machine 12 of the game units 18. At the time of game execution, think as important the speed of a motion of the character in a game scene, etc., i.e., the speed of a motion as an animation, etc., and it does not raise the grace of a display image. When displaying the output image data distributed from the regeneration machine 20, it is preferred to raise spatial resolving power, density resolution, resolution, picture element density, etc., and to display a high-definition picture. In this way, a high-definition picture can be appreciated also with the game machine 12.

[0047]As mentioned above, in the printing system 10 using this invention, The output image data outputted from the regeneration machine 20, It is not what was generated from the image data of the picture of the game scene displayed on the display 14 of the game machine 12 itself, It is the image data of the more nearly high-definition picture which reproduced the game scene by which output instruction was carried out with the game machine 12 using the game software for regeneration of the same game with the regeneration machine 20, i.e., a high definition picture.

[0048]Therefore, the player can perform output instruction, such as print instruction of arbitrary game scenes [be / none of all restrictions]. As mentioned above, rather than the picture displayed on the display 14 of the game machine 12, since the print P can be substantially outputted by high definition and high definition image data, a high definition print can be outputted as compared with the print service of the conventional game screen. Or high definition and high definition image data are recordable on the image-data-recording medium R, Or since it can distribute via the online correspondence network 38 and can display on the high-definition image displaying unit 36 or the game units 18 using these, high definition and a high definition picture can be displayed. In a printing image or a display image, flexibility of various kinds of processings, such as expansion and viewpoint change, can also improve substantially.

[0049]And since not the image data itself but the game history information on game scene reproducing information is used although the game scene by which output instruction was carried out is reproduced with the regeneration machine 20, and it is performed to it with the game machine 12, The data volume transmitted with the data volume and the online correspondence network 38 which are memorized in the memory 16 can be reduced. For this reason, when a transfer form is off-line, it is not necessary to memorize the image data itself in the memory 16.

Data volume can be reduced, for example, output instruction, such as print instruction of several Oshi's game scene, can be memorized in the one memory 16 as compared with the former, and creation of the print P, creation of the image-data-recording medium R, and the online distribution of output image data can be requested. When a transfer form is on-line, transfer time per 1 game scene can be shortened substantially.

[0050]The print P especially outputted as mentioned above when an output form is a print may not be carried out to the usual print, for example, its limitation may be the prints (a shirt, a cup, etc.) to a seal print, a postcard, a calendar, a poster, and a solid thing, etc. It may output as a solid (3D) print. For example, the assumption picture which shifted the viewpoint like the picture for right eyes and the picture for left eyes may be created and outputted, or it may output as a solid print which has a lenticular lens on the surface of a print.

[0051]The database 34 is connected to the printer 22 of the printing system 10 of the example of a graphic display, various kinds of information is memorized here, and it can respond to various options. For example, in [memorize the image data of a customer's face in the database 34, supply the image data to the printer 22 at the time of a print, and] the printer 22, It may process transposing the face of a game character which compounds a customer's face for the background of a game screen, etc. to a customer's face etc., and a print may be created. A character of a game screen, a picture of a scene, etc. which were printed in the past are memorized, and the print which compounded this may be outputted. The character of another game, composition of a scene, etc. are possible.

[0052]The database 34 may be connected to the regeneration machine 20, and processing of such picture composition etc. may be performed by the image processing portion 44 and/or the data processing part 46 of the regeneration machine 20, and the processing in the printer 22 and the processing in the regeneration machine 20 may be used together. The game scene regeneration machine of the 1st mode of this invention and the game scene regeneration system of the 2nd mode of this invention are constituted as mentioned above fundamentally.

[0053]Next, with reference to drawing 3, the game scene regeneration system of the 3rd mode of this invention is explained. The game scene regeneration system (henceforth a regeneration system) 50 shown in drawing 3. Except for the printing system 10 shown in drawing 1, and the point that two or more game units 18 are connected to the regeneration machine 20 via the online correspondence network 38, since it is the same, the same reference mark is given to the same component, and the detailed explanation is omitted to it.

[0054]In the regeneration system 50 shown in drawing 3, the game machine 12 for every game units 18 of two or more players is connected via the communications networks 38, such as the Internet. Here, as for two or more players connected via the communications network 38, it is preferred that it is Memba registered beforehand. The communications network 38 is a two-way communication network, and it is preferred between the game machine 12 of two or more game units 18, and the regeneration machine 20 for two-way communication to be possible. In the regeneration system 50 shown in drawing 3, First, when [of two or more players] one person clears a predetermined condition at least, The game scene reproducing information of the game scene of the player of others in a clearance time is transmitted to game scene reproducing information and a pan including the game history information which carried out output specification by communications network 38 course at the regeneration machine 20 if needed from the game machine 12 of the game units 18 of the player.

[0055]Next, based on two or more output specification information and game history information of game scene reproducing information on a player of a one player and other players at least, the regeneration machine 20, accepting necessity in the synthetic reappearance picture acquired by reproducing the game scene of two or more players, and compounding in the reappearance picture of one sheet -- image processing -- and/or, data processing being carried out and, According to an output form, output the image data of the synthetic reappearance picture, and the print P of a synthetic reappearance picture is outputted from the printer 22, Or the image-data-recording medium R by which the image data of the synthetic reappearance picture was recorded from the driver 24 is outputted, or it distributes to two or more game machines 12 or display units which are not illustrated of each game units 18 of a player via the communications

network 38. As for the synthetic reproduced image outputted or its image data, at this time, it is preferred that they are a picture more nearly high-definition than the display image of the game machine 12 and its image data. Or based on the one output specification information and game history information of game scene reproducing information on a player at least, the regeneration machine 20, accepting necessity in the reappearance picture acquired by reproducing the game scene of a one player, or reproducing the game scene of two or more players, and compounding in the reappearance picture of one sheet -- image processing -- and/or, data processing being carried out and, The image data of the reappearance picture is distributed to the game machine 12 of each game units 18 of two or more players. Then, the game machine 12 of each game units 18 of two or more players which received the image data of the reappearance picture displays the reappearance picture on each display 14.

[0056]The reappearance picture created in this regeneration system 50 may be created based on the game scene reproducing information of a one player, combines the reappearance picture reproduced based on the game scene reproducing information of two or more players, and may be created. First, the case where the reappearance (it compounded) picture which summarized the game scene of Memba registered beforehand is created is explained concretely. As for the predetermined condition information on whether it is supposed that it is the scene (scene) which cleared what kind of game condition (game scene), at this time, it is preferred to set up as group registration information beforehand.

[0057]First, in the 1st method, everybody perform the same game suitably with each game machine 12, and transmit the game scene reproducing information (scene edit data) of the game scene at the time of fulfilling the predetermined conditions decided within the group to the regeneration machine 20 of service industry companies, such as a lab. A service industry company performs picture creation processings (reappearance, composition, etc.) in the stage for which the scene edit data for predetermined Memba gathered. In this way, for example in the game scene which cleared the specific screen in a game, the picture created can mention the picture etc. which were sorted according to lapsed time or points. the mug shot picture and face picture of each Memba which are registered into this sorting picture further beforehand are combined, or it inserts in as a character in a game -- processing application may be carried out.

[0058]Next, the 2nd method is the method of creating the aggregate image of the game scene of each Memba in prescribed timing. In this method, each Memba carries out synchronization of the same game with each game machine 12. Transmitting the scene edit data of each one of game machines 12 of each to a service industry company is always continued in real time. Here, the aggregate image of the game scene of all the Memba in the time of one person of Memba clearing the specific scene of a game or a game is created. Scene edit data may not be transmitted to a service industry company in real time in this case, but the scene edit data of the time of the everybody of all the Memba once clearing the specific scene of a game or a game may be collected, and it may create on the basis of the timing (lapsed time) which the earliest person cleared. It may sort like the above.

[0059]The 3rd method accumulates results, such as the number of championships in Memba, and a comprehensive (accumulation) score, in the database 28 by the side of a service industry company as data for groups, may read them from the database 28 at the time of picture creation, and may compound results, such as the number of championships and a composite score, in a creation picture. In this way, the synthetic reappearance picture and aggregate image which were created, It is outputted as the print P from the printer 22, is outputted as the image-data-recording medium R which recorded the image data from the driver 24, or distributes via the communications network 38 as the image data, and is displayed on the game machine 12 or the display unit which is not illustrated. In this way, in this regeneration system 50, since the aggregate image which the ranking and the results between Memba understand can be created, the enjoyableness of each player in Memba can be raised.

[0060]When the game machine 12 of the game units 18 of two or more Memba is connected with the regeneration machine 20 with the two-way communication network 38, It is preferred to transmit the reappearance picture created from the service industry company side, such as a lab, to each Memba to the predetermined timing at the time of one someone in Memba clearing a

prescribed scene etc. For example, when the player of one person in Memba clears a game or a predetermined game scene first, The player the output instruction information and the game scene reproducing information to carry out of the game scene via the communications network 38, A game scene is reproduced based on the game scene reproducing information which transmitted to the service industry company's regeneration machine 20, and was transmitted in the regeneration machine 20, The image data of the reappearance picture of the reproduced game scene is transmitted to the game machine 12 of the game units 18 of each Memba via the communications network 38, and a reappearance picture is displayed on the display 14 based on the transmitted image data in the game machine 12 of each Memba. In this way, in this regeneration system 50, the competitive spirit of each player can be raised and enjoyableness can be raised.

[0061]As mentioned above, although the game scene regeneration machine and system of this invention were explained in detail, in the range which limitation is not carried out to the example of the above-mentioned versatility [this invention], and does not deviate from the gist of this invention, what may make various kinds of improvement and change is natural.

[0062]

[Effect of the Invention]As mentioned above, as explained in detail, according to the game scene regeneration machine of the 1st mode of this invention, and the game scene regeneration system of the 2nd mode. The output of the prints of a game scene reappearance picture with an arbitrary game performed with various kinds of game machines, The output of the image-data-recording medium by which the image data of the reappearance picture was recorded, The reappearance picture displayed based on the image data recorded on the reappearance picture and image recording medium of the print which the online distribution of the image data moreover outputs by becoming possible, or the image data by which online distribution was carried out, As compared with the print service of the conventional game scene, it is high definition and is made to what has the high flexibility of processing. And compared with the method of memorizing image data, the data volume memorized in a memory for the medium output and on-line output of the print output of a game scene or its image data can also be reduced, Or the data volume transmitted with a communications network can be reduced, and transfer time per 1 game scene can be shortened substantially.

[0063]Since the aggregate image which the ranking and the results between Memba which operates two or more game machines connected with the communications network understand can be created according to game scene regeneration of the 3rd mode of this invention, The enjoyableness of each player in Memba can be raised, and the competitive spirit of each player can be raised and enjoyableness can be raised.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] This invention belongs to the technical field of a game scene regeneration machine and a system, and is a computer-game machine (in this invention.) in detail. It is related with the regeneration machine and system reproducing the scene of the game displayed on the display screen in only calling it a game machine etc. of a game which can be preferably outputted as a picture reproduced by high definition.

[Translation done.]

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PRIOR ART

[Description of the Prior Art]In some computer-game machines (the game software = application), the whole surface of the scene (game scene) of the game displayed by the display screen of a display during execution of a game and service which outputs the part as a print of a seal, a poster, etc. are offered. It is the game scene (scene) considered that the operator (player) of a game wants to print and output this print service during execution of a game, and that is inputted by the button and command which were set as the game machine. By being recorded on the memory built in a game cartridge etc., and a memory for exclusive use, carrying this memory into a print contractor, and requesting print creation, the print which reproduced the game scene for which it asks is created, and this information is supplied to a user.

[0003]In the print service of such a game scene, it is possible to memorize the image data of a game scene in a memory as it is, to supply it to a printer, to perform predetermined processing, and to output as a print.

[0004]However, by recent years, if the picture of the game scene of the display screen in a game machine is a display screen of a display, it will be considered to have secured sufficient image quality, but. When a game scene is outputted as a print using this image data, it can never be said that it is enough in image quality in respect of spatial resolving power, density resolution, etc. Since expansion of the picture by image data processing is accompanied by degradation of image quality, the size of a print is also restricted. Although how to improve in the image quality of the game scene of a display screen itself is also considered, The image data quantity which a memory is made to memorize increases dramatically, and also it will be necessary to also raise substantially the image display performance of the display of a game machine body or game software, and will become very [in cost] disadvantageous in this method.

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EFFECT OF THE INVENTION

[Effect of the Invention]As mentioned above, as explained in detail, according to the game scene regeneration machine of the 1st mode of this invention, and the game scene regeneration system of the 2nd mode. The output of the prints of a game scene reappearance picture with an arbitrary game performed with various kinds of game machines, The output of the image-data-recording medium by which the image data of the reappearance picture was recorded, The reappearance picture displayed based on the image data recorded on the reappearance picture and image recording medium of the print which the online distribution of the image data moreover outputs by becoming possible, or the image data by which online distribution was carried out, As compared with the print service of the conventional game scene, it is high definition and is made to what has the high flexibility of processing. And compared with the method of memorizing image data, the data volume memorized in a memory for the medium output and on-line output of the print output of a game scene or its image data can also be reduced, Or the data volume transmitted with a communications network can be reduced, and transfer time per 1 game scene can be shortened substantially.

[0063]Since the aggregate image which the ranking and the results between Memba which operates two or more game machines connected with the communications network understand can be created according to game scene regeneration of the 3rd mode of this invention, The enjoyableness of each player in Memba can be raised, and the competitive spirit of each player can be raised and enjoyableness can be raised.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]The 1st purpose of this invention is to solve the problem of said conventional technology, Especially the arbitrary game scenes under game execution in a computer-game machine as the reproduced picture of one sheet or two or more continuous pictures (video), a high definition picture, or high-definition video. For example, it outputs as a print of a photoprint, a seal print, a poster, an index print, etc., Or it is in providing the game scene regeneration machine and system which make it possible to output to an image-data-recording medium as image data of such a picture, or to transmit via communications networks, such as the Internet. The 2nd purpose of this invention is to provide the game scene regeneration system which can raise the enjoyableness of the operator of two or more computer-game machines connected to the game scene regeneration machine via communications networks, such as the Internet, in addition to the 1st purpose of the above.

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MEANS

[Means for Solving the Problem]In order to attain the 1st purpose of the above, the 1st mode of this invention, It has a directing means which directs an output of a game scene displayed by display screen during game execution, A reappearance means to reproduce said game scene in a game machine which outputs game scene reproducing information including game history information which has timing information of output instruction by this directing means, control information on a performed game, and game operation information, A receiving means which receives said game scene reproducing information outputted from said game machine, It **** and a game scene regeneration machine reproducing a game scene in which output instruction was carried out by said directing means by said reappearance means, and outputting image data of a reproduced game scene according to said game history information which this receiving means received is provided.

[0007]The 2nd mode of this invention has a directing means which directs an output of a game scene displayed by display screen during game execution, A game machine which outputs game scene reproducing information including timing information of output instruction by this directing means, control information on a performed game, and game history information that has game operation information, It has a reappearance means to reproduce said game scene in this game machine, and a means to receive said game scene reproducing information outputted from said game machine, A game scene regeneration machine which reproduces a game scene in which output instruction was carried out by said directing means by said reappearance means, and outputs image data of a reproduced game scene according to said game history information which this receiving means received, A game scene regeneration system having a communications network which connects said game machine and said game scene regeneration machine is provided.

[0008]In order to attain the 2nd purpose of this invention, the 3rd mode of this invention, It has a directing means which directs an output of a game scene displayed by display screen during game execution, respectively, Two or more game machines which output game scene reproducing information including timing information of output instruction by this directing means, control information on a performed game, and game history information that has game operation information, A reappearance means to reproduce said game scene in at least one of the game machines of these, It has a means to receive said game scene reproducing information outputted from at least one of said the game machines, According to said game history information on said game scene reproducing information which this receiving means received, A game scene regeneration machine which reproduces a game scene in which output instruction was carried out by said directing means by said reappearance means, and outputs image data of a reproduced game scene, Have a communications network which connects said two or more game machines and said game scene regeneration machine, and at least one of said two or more of the game machines. A game scene regeneration system outputting said game scene reproducing information of said game scene directed by said directing means to a receiving means of said game scene regeneration machine via said communications network is provided. In this 3rd mode, said communications network is a two-way communication network, and, as for said game scene regeneration machine, it is preferred to output image data of said game scene reproduced by

said reappearance means to said two or more game machines, and to make it display on said display screen.

[0009]Here, as for said reappearance means, it is preferred to perform game software for regeneration of the same game as a game which said game machine performs, and to reproduce said said game scene by which output instruction was carried out. As for image data of said game scene outputted, it is preferred that it is the image data of a picture more nearly high-definition than image data of a game scene displayed on said display screen of said game machine. Image data of said high-definition picture has a thing with at least one [high] of spatial resolving power, gradation resolution, and the number of drawing polygons more preferred than image data of a game screen of said game machine.

[0010]Said high-definition image data is image processing other than image processing at the time of game execution by said game machine performed image data, and said another image processing, Texture mapping, bump mapping, fog, alpha lending, Bi-linear filtering, try linear filtering, a MIPPU map, Antialiasing, a multipass rendering, a radiosity rendering, It is preferred that it is at least one CG art chosen from a group which consists of a ray-tracing, fractal, random fractal, and fractal noise, a cellular automaton, Bezier, a spline, and NURBS. As for image data of said game scene outputted, it is preferred that it is the image data to which at least one of special finish processing and the regeneration from a different viewpoint was given.

[0011]As for the above-mentioned game scene regeneration machine, it is preferred to have an image data transformation means which changes image data of said reproduced game scene into output image data according to an output form further. Here, as for said output form, it is preferred that it is at least one of the image data transfer through an output of a print, record to an image-data-recording medium, and a communications network. As for the above-mentioned game scene regeneration machine, it is preferred to have a comment information adding means which adds comment information to a picture of said game scene outputted further.

[0012]In addition to said game history information, said game scene reproducing information Ordering information of a picture of said game scene outputted, Said game machine is added to said game history information including at least one of orderer identification information and the comment information, and it is preferred to output said game scene reproducing information containing at least one of ordering information of a picture of said game scene outputted, orderer identification information, and the comment information.

[0013]Said game scene reproducing information outputted by said game machine is memorized by dismountable memory equipped with or connected to said game machine, and, as for said receiving means, it is preferred that it is a means to read said game scene reproducing information in said dismountable memory. Said receiving means is connected to a memory built in, equipped with or connected to said game machine or said game machine via a communications network, and said game machine, As for said receiving means, after memorizing in said memory directly or once built in, equipped with or connected to said game machine, said game scene reproducing information is outputted to said communications network, and it is preferred to receive said game scene information via said communications network. Image data of said game scene reproduced with said game scene regeneration machine is displayed on said display screen of each game machine of specific Memba as a reappearance picture, and, as for this reappearance picture, it is preferred that it is an aggregate image in which at least one of ranking between said specific Memba and the results is shown.

[0014]

[Embodiment of the Invention]The game scene regeneration machine and system concerning this invention are explained in detail below based on the preferred embodiment shown in an attached drawing.

[0015]The game scene regeneration machine of the 1st mode of this invention, [when performing the game with the computer-game machine (it is hereafter considered as a game machine)], The operator (player) of a game chooses the picture (game scene) displayed on the display screen of the display at the arbitrary times, Creation of the print of the reappearance picture of the game scene, and acquisition of the image data (incorporation of the image data to the game machine through communications networks with which image data was recorded, such

as acquisition of an image-data-recording medium and the Internet, the computer of the stock of the player, etc.), Namely, it is for outputting the image data of the reappearance picture which inputted directions of the output of game scene reproducing information, and reproduced the game scene (or the arbitrarily selected part) or the continuous game scene, The print of the seal and poster of a reappearance picture, a photoprint, an index print, etc. is outputted using the image data of such a reappearance picture, Or it is used suitably for the printing system etc. which are outputted to an image-data-recording medium as image data of such a reappearance picture, or are transmitted via communications networks, such as the Internet.

[0016]Such a printing system is a system which can also function as a game scene regeneration system of the 2nd and 3rd modes of this invention. Especially the game scene regeneration system of the 3rd mode of this invention, The game scene regeneration machine of the 1st mode of the above and two or more computer-game machines are connected via communications networks, such as the Internet, The reproducing information of the arbitrary game scenes under game execution is outputted to a game scene regeneration machine via a communications network with at least one game machine, The picture of a game scene is reproduced from the game scene reproducing information acquired in the game scene regeneration machine, processings remaining as it is or various are performed, and it distributes to two or more game machines via a communications network.

[0017]The notional block diagram of one example of the printing system which functions as a game scene regeneration machine system of the 2nd mode using the game scene regeneration machine of the 1st mode of this invention of this invention is shown in drawing 1. the printing system 10 shown in drawing 1 -- a customer (the client of print creation.) Usually, it is connected to the game machine 12 and the game machine 12 which the player of a game machine owns, The game units 18 which have the memory 16 with which the display 14 and the game machine 12 which display a game scene on the display screen are equipped (or connection or built-in), It has with the driver 24 of the printer 22 which outputs the print P connected to the game scene regeneration machine (henceforth a regeneration machine) 20 and the regeneration machine 20 by the side of print service contractors (or image data distribution contractor), such as a lab, and the image-data-recording medium R.

[0018]A game is performed to the game machine 12 and operation of games which appear in a game, such as movement of a character, operation, an input of a command, and the controller 26 for performing the input of ordering information or comment information the output instruction of a game scene and if needed further are connected to it. Software required to reproduce the game scene of the game performed with the game machine 12 to the regeneration machine 20, Image processing and data processing which are performed to the image data of the reappearance picture of the game scene outputted, The data input device 30 for inputting the database 28 and these which memorize the contents of processing of the image data conversion according to the output form of the reappearance picture of this game scene, the comment information added or compounded by the image data outputted, etc. from the outside is connected. The regeneration machine 20 and the database 28 are connected to the game software supply source 32 for downloading game software, new game software, etc. which it does not have.

[0019]The database 34 which memorizes various kinds of information, including the data about the past print output, a customer's information, etc., is connected to the printer 22. The customer has the high-definition image displaying units 36, such as a personal computer for displaying a high-definition picture, independently [the game units 18] further again. It is connected by the online correspondence networks (only henceforth a communications network) 38, such as the Internet, between the game units 18 (game machine 12) and the high-definition image displaying unit 36, and the regeneration machine 20.

[0020]In the printing system 10 to be used, this invention the game machine 12 (game software performed with the game machine 12), At the arbitrary times at the time of the picture (scene) with which a player is pleased during execution of a game being displayed on the display 14 in addition to the execution function of the usual game etc. A player outputs as the image-data-recording medium R by which the image data was recorded by considering the game scene as

the print P, Or in the function (henceforth [it names generically and] an output instruction function) to direct to acquire the image data via the communications networks 38, such as the Internet, and the game performed with the game machine 12, After making the memory 16 once make memorize it the memory 16 or memorize the game scene reproducing information which includes at least the game history information on the game scene by which output instruction was carried out with the player, it has a function directly distributed to the regeneration machine 20 via the communications network 38 from the game machine 12.

[0021]In the printing system 10 using this invention shown in drawing 1, Output forms, such as an on-line output which outputs the print output which outputs the print P, the medium output which outputs the image-data-recording medium R, and the image data itself via the communications network 38, can be taken, According to such an output form, output instruction, such as directions (print instruction) of a print output, directions (medium directions) of a medium output, and directions (on-line directions) of an on-line output, can be performed, respectively.

[0022]In such various output forms, the animation which consists of two or more reappearance pictures which reproduced not only the still picture that reproduced a certain game scene but the continuous game scene can also be outputted. In the case of an animation, it is preferred to use two or more pictures as the index print serially reproduced on the print of one sheet in a print output. moreover -- also setting to which output form in the case of a still picture -- two or more scenes (game scene) -- the yne deck -- or it may edit in the style of an album. At this time, a top row, size, a marginal pattern, a comment field, etc. can be edited freely. Even if it is a case of an animation, of course in which output form, it may edit similarly. It is still more desirable, when reproducing an animation, and voice data in a game is also high-quality-sound-ized more and is added with the regeneration machine 20.

[0023]Also in which output form, comment information can also be added to the image data of the reappearance picture which reproduced the game scene by which output instruction was carried out. The comment information which the player which is a customer has as such comment information, or is prepared or inputted, The comment information prepared by a print service contractor or an image data distribution contractor (henceforth [it names generically and] a service industry company) with the regeneration machine 20, etc. can be mentioned. The text data in which a customer expects an addition of a reappearance picture as comment information by the side of a customer to provide. (For example, alphabetic data, such as favorite language and a phrase) Image data, such as a customer's handwritten character and photographed image data, favorite animation, and its character image data, voice data, etc. can be raised, and it may compound in a reappearance picture, and may add in the form attached to a reappearance picture. For example, in a print, it may compound in a picture and picture outside is (for example, it may compound around a pearlitic rim etc. and may record on a rear face.). in addition -- responding at necessity in the case of voice data -- visualization, i.e., alphabetic-data-izing, -- or it may image-data-ize and picture composition may be carried out -- it may attach by carrying out.

[0024]Also as comment information which a service industry company provides, text data, Image data, such as a still picture and/or an animation, voice data, etc. can be mentioned, For example, a character, a picture, etc. which were decided when the specific scene of the game performed was cleared, For example, text data, such as data [for every scene / "congratulations" etc.], and an advertisement of other service industry company offers, and image data, The game obtained with reference to the data stored in the database 28 connected to the regeneration machine 20, or the clearance (achievement) ranking of the player about a specific game scene, For example, it may compound or attach and "the how many persons you are", the data of "a what [the] place rank [!!]" etc., the game of a player or the "attestation mark" for the proof of a specific game scene clearance, etc. may be added.

[0025]The transmission to the regeneration machine 20 from the game units 18 of the game scene reproducing information which includes the game history information created with the game machine 12 in this invention, As a dotted line shows to drawing 1, the memory 16 etc. which were equipped with or connected to the game machine 12 remove, and memorize to the

portable memory medium which can be carried and the memory 16 is removed from the game machine 12, the place in which the regeneration machine 20 was installed physically, for example, the method of carrying to a print service contractor (lab), -- once -- the memory 16 (even if it is an internal memory) in the game machine 12 For it to be by the portable memory mentioned above even if it is external memory After accumulation, Game scene reproducing information created with the method and the game machine 12 which are transmitted by the communications network 38 course shown by the drawing 1 inner substance line to predetermined timing can be performed by various transfer forms, such as the method of transmitting immediately by communications network 38 course.

[0026]However, this invention does not need to be provided with all these output forms and transfer forms, and just performs at least one of the at least one and above-mentioned transfer forms of the above-mentioned output form. The most fundamental invention of this invention is a print output by print instruction as an output form, It is only a reappearance picture of the game scene by which print instruction was carried out as the print P, As a transfer form, are off-line and a portable memory is used as the memory 16, Although it is a game scene regeneration machine which is carried physically and which is a method and is game history information as game scene reproducing information and is a game scene regeneration system which comprises the regeneration machine 20, the game units 18, and the printer 22 in drawing 1, As for this invention, it is needless to say that it is not necessarily limited to these.

[0027]Using the controller 26, command input of the output instruction, such as print instruction according to an output form, may be carried out, it may install dedicated buttons in game machine 12 the very thing or the controller 26, and may perform them with these dedicated buttons. Or an input device is formed in the game machine 12, and command input may be carried out using this input device, or it may direct directly. Limitation is not carried out at once (namely, 1 game scene), but according to the capacity of the memory 16, etc., output instruction, such as print instruction, is good in how many times line to arbitrary timing during execution of a game, and with one output instruction. Output instruction of two or more game scenes or two or more continuous game scenes (for example, the continuous still picture or an animation) may be performed.

[0028]The ordering information which specifies specification of the output form which was mentioned above to the game machine 12 in addition to the output instruction function, and its details, The function to input into a print or image data the comment information added or compounded is given, and with output instruction information, such as print instruction, ordering information, comment information, etc. according to an output form may be inputted, and it may record on the memory 16. What is necessary is just to perform the input and record of these ordering information, comment information, etc. using the controller 26 or the input device which is not illustrated, and after the stage ends a game also in game execution, the both may be [but] sufficient as it. As for such ordering information, it is preferred to be outputted as game scene reproducing information with the game history information outputted from the game machine 12 by output instruction.

[0029]If specification and its detailed specification of the output form mentioned above can be performed as such ordering information, If it is a print output, according to the output form specified especially, for example rather than restrictive The size, the number of sheets, the quality of paper, and the finished state of each print, If the receipt method of a print, the payment method of a price, etc. are a medium output and an on-line output, a data format (format), If it is data size, a data compression level, and a medium output, the kind of image-data-recording medium, if it is an on-line output -- the destination (1 or multidata input) -- the specification information on the kind of data processing, such as customer data (an on-line output especially discernment (ID) information etc.), image processing, and special finishing, or the contents, various kinds of option directions information, etc. can be mentioned in common.

[0030]As game scene reproducing information used for this invention, Although it is preferred to include game history information, ordering information, comment information by a player, etc. on the game scene by the output instruction of a player, This invention is not limited to this, but if it includes at least the information which can reproduce the game scene directed with the game

machine 12, what kind of information may be sufficient as it, for example, it should just include game history information at least. Such game history information is information for reproducing the game scene by which output instruction was carried out with the game software for regeneration of the same game that the regeneration machine 20 mentioned later has. For example, it comprises timing information (timing of the serial output instruction in advance of a game) of the output instruction by a player, internal-control information in a game, including scene-setting, a transaction data, etc., time series information of operation by the player in execution of a game, etc. The game history information needs to memorize no advance hysteresis information of the game corresponding to creation of reappearance pictures, such as print creation, creation of an image-data-recording medium, and an on-line output of image data. The information on the editing data etc. which can reproduce the game scene directed with the game machine 12 is included at least, it ****s, and information (data) unnecessary to the reappearance of a game scene by which output instruction was carried out may be deleted one by one.

[0031]In the printing system 10 using this invention, there is no limitation in particular in the memory 16 attached to the game machine 12. Publicly known storages, such as a floppy (registered trademark) disk (FD), a hard disk (HD), a flash memory, an IC memory, MO, CD-R, and DVD, are available in some numbers. As long as the game machine 12 is a thing of a type which loads with the game cassette (cartridge) etc. which contain ROM etc. which memorize game software, and performs a game, the memory 16 may be built in a game cassette. When transmission to the regeneration machine 20 of the game scene reproducing information recorded on the memory 16 is off-line, Since it is necessary to be a dismountable portable memory, the external memory of the type equipped with or connected to the game machine 12 is preferred, but when it is on-line, the memory 16 may be the external memory attached fixed, even if it is internal memories, such as an internal memory. The display 14 may also be a thing of exclusive use [game machine / 12], and may be a monitor and the television for home use of a computer etc.

[0032]In the printing system 10, when a transfer form is off-line, The memory 16 which memorized game scene reproducing information including game history information is removed from the game machine 12, a print service contractor is provided with it by the customer with the request of print creation, a medium output, etc., and a print service contractor's regeneration machine 20 is loaded with it. Ordering information and comment information, including the above-mentioned print number of sheets, various kinds of options, etc., Also besides recording on the above-mentioned memory 16 as game scene reproducing information with game history information, in the case of this request, it may point to a print service contractor in oral, the writing to a request paper, etc., and both may be used together. Limitation is not carried out to this invention removing the memory 16 from the game machine 12, and providing for a print service contractor, but the KEMU scene reproducing information memorized in the memory 16 may once be supplied to a print service contractor using the online correspondence networks 38, such as online communications. On-line transmission may be directly carried out from the game machine 12 at the regeneration machine 20, without memorizing in the memory 16.

[0033]The regeneration machine 20 of this invention reads game scene reproducing information including game history information from the memory 16 which has the game software for regeneration of the same game as the game which a customer has for example, with which it was equipped, Or start the game software for regeneration of the game which read the game scene reproducing information by which on-line transmission was carried out, and was carried out in output instruction, such as a creation request of a print, and. Game scenes by which output instruction was carried out, such as print instruction, are reproduced using the game software for regeneration, and game history information, and the image data of a reappearance picture according to the output form of the print P etc. is outputted.

[0034]The regeneration machine 20 of this invention equips with the memory 16, as shown in drawing 2. The receipt part 40 which receives and reads the game scene reproducing information which read game scene reproducing information from the memory 16 with which it was equipped, or has been transmitted via the online correspondence network 38 from the game machine 12

(or the memory 16), Software for regeneration of the same game as the game by which output instruction was carried out based on the output instruction information of game scene reproducing information is performed, The reappearance part 42 which reproduces the game scene by which output instruction was carried out using game history information, and generates the image data or scene constitution data (for example, data of polygonal representation) of a reappearance picture, The image processing 44 which performs predetermined image processing to the image data of a reappearance picture, and the data processing part 46 which performs data processing, such as special finish processing and regeneration from a different viewpoint, to the image data of the back before image processing, It has the image data converter 48 which changes the image data after image processing or data processing into the image data according to an output form.

[0035]The game software for regeneration which the reappearance part 42 of the regeneration machine 20 has or performs for game scene reappearance, It may not be limited to one, but even if the reappearance part 42 has two or more game software, right [of it] may be carried out, and of course, two or more game software may be performed. Such game software for regeneration, Even if memories, such as a hard disk which the regeneration machine 20 has, memorize, Having been connected to the regeneration machine 20 may memorize at the database 28, Storages, such as CD-ROM with which it can load, the data input device 30, for example, the storage driver, of the regeneration machine 20, MO (optical magnetic recording medium), FD, and removable HD, may memorize. In being the game software which the recording medium with which the game software which neither the reappearance part 42 nor the database 28 holds, and the data input device 30 are loaded is not recording, Based on the game identification information of the game history information on game scene reproducing information, The game software for regeneration may be downloaded via communications networks, such as the Internet, from the game software supply source 32, for example, the maker of an applicable game, or the database of a game providing facility. It may enable it to use what was memorized by the database 24 connected to the printer 22 further again. Of course, various methods mentioned above may be used together.

[0036]Although the game software which a customer's game machine 12 performs, and the game software for regeneration which the reappearance part 42 of the regeneration machine 20 performs are the game software of the same game, here, The game software for regeneration which does not need to be completely the same and the reappearance part 42 of the regeneration machine 20 performs, It is preferred to have the capability to output the image data or scene constitution data of a high definition picture especially about the display image of a game scene so that a picture more nearly high-definition than the game machine 12 can be reproduced. The game software for regeneration which the reappearance part 42 of the regeneration machine 20 performs specifically, It is good to be able to output at least 1 or more [of spatial resolving power, density resolution, and the number of drawing polygons], and the image data of a desirable picture with high all as compared with the game software which a customer's game machine 12 performs. Since what is necessary is just to be able to reproduce the game scene in which the customer did output specification when performing game software for regeneration in the reappearance part 42, it may perform from the beginning, is not necessary to necessarily reproduce advance of a game faithfully, and may start with the middle.

[0037]In the image processing portion 44, image processing which may perform image processing which is not performed or is performed with the game machine 12 may be performed more to an altitude with the game machine 12. As such image processing, texture mapping, bump mapping, Fog, alpha lending, bi-linear filtering, try linear filtering, A MIPPU map, antialiasing, a multipass rendering, a radiosity rendering, CG art, such as a ray-tracing, fractal, random fractal, and fractal noise, a cellular automaton, and the various techniques (Bezier, a spline, NURBS, etc.) of free sculptured surface generation, is illustrated.

[0038]Since there is no necessity for the image display of the game scene in the real time according to execution of the game in the reappearance part 42 of the regeneration machine 20, There are calculation time and sufficient margin for the image data quantity to process, advanced image processing according to high spatial resolving power, density resolution, and the

number of drawing polygons can be performed by the image processing portion 44, and it can fully respond to generation and processing of image data high definition [for reproducing a high-definition picture].

[0039]Not only by image processing for reproducing a high-definition picture by the image processing portion 44 in the regeneration machine 20 of this invention but by the data processing part 46. A player specifies or image processing according to liking, for example, image processing for special finishing, (special finish processing), different regeneration from a viewpoint, etc. may be performed. For example, finishing of the animation style of painting of the drawing-in-India-ink style of the watercolor painting style [and] as special finish processing, etc., [of oil painting] The beam-of-light processing etc. which set up monochrome finishing, sepia finishing, other specific color tone finishing, shade-and-shadow processing, a direction, strength of a light, etc., and the major object can mention change of the background which comes out as it is, a completely different background, the replacement by the picture specified by a customer, etc. What is necessary is just to perform these processings by a publicly known method.

[0040]As regeneration from a different viewpoint, the method of generating the game image (scene) which scrolled, for example in the transverse direction and observed the game scene by which output instruction was carried out from a different viewpoint can be mentioned by a publicly known method. In this way, the picture which changed the viewpoint by customer specification is renewable. Processing of expansion, reduction, trimming, etc. is also included in regeneration from such a different viewpoint. As a result, the picture of the game scene which cannot be seen in the game machine 12 can also be outputted. The stereo image which is a picture from the viewpoint according to an eye on either side as regeneration from a different viewpoint can be created, and the method of making it into 3D (dimension) picture can be mentioned. When a character, a background, etc. in the game performed with the game machine 12 are expressed as 3D data, they are possible for this 3D picture. When the game scene is expressed in 3D (dimension) space, the picture at the time of moving a viewpoint freely in the three-dimensional space of the game scenes, such as a scene seen, for example from the back side of a character, can be created.

[0041]Here specification of the contents of processing in the image processing portion 44 and a data processing part, You may make it contain in the ordering information of game scene reproducing information beforehand by the player side, it may be made to accumulate in the database 28 according to a customer (player) beforehand by the service industry company side, and the data input device 30 may perform each time or beforehand. Although both the regeneration machines 20 of the example of a graphic display have the image processing portion 44 and the data processing part 46, This invention is not limited to this, but may have only either, and both do not have it, but it may carry out the direct output of the reappearance image data of the game scene reproduced in the reappearance part 42 to the image data converter 48. When performing both processing of the image processing portion 44, and processing of the data processing part 46, whichever may be performed first.

[0042]The reappearance image data processed by the reappearance image data reproduced in the reappearance part 42, the reappearance image data by which image processing was carried out by the image processing portion 44, or the data processing part 46 is the image data converter 48, and embraced the output form. "it is changed into output image data, such as a format and size. Namely, when outputted to the printer 22. In the case of an on-line output, it is changed into the output image data according to the image-data-recording medium R used for the output image data for a print suitable for the printer 22 when outputted to the driver 24 at the output image data according to the communications network 38. What is necessary is just to be able to change the image data converter 48 into the output image data according to the set-up output form, when the output form is set as one or two. When the reappearance image data inputted into the image data converter 48 is the output image data according to an output form, it is not necessary to perform image data conversion, and if the number of output forms is one, it is not necessary to provide image data converter 48 the very thing. The ordering information of game scene reproducing information may perform specification of an output form to the image

data converter 48 by the player side, and the data input device 30 may perform by the service industry company side.

[0043]After the game scene which was reproduced with the regeneration machine 20 in the case of the print output is used as the output image data for print creation based on the printer 22 in this way, it is outputted to the printer 22. The printer 22 is a publicly known printer, performs processing of predetermined [, such as gradation adjustment, a color/concentration adjustment] to the supplied image data, and outputs it to it as a print (hard copy). As mentioned above, when print instruction of the animation of two or more game scenes or a game scene is performed, as shown in drawing 3, the picture of index print IP which summarized these on the print of one sheet may be generated. The printer 22 may generate the picture (image data) of this index print IP. Index print IP shown in drawing 3 has comment information in the upper part with two or more pictures.

[0044]In the printing system 10 using this invention, there is no limitation in particular in the printer 22. The printer which is available in some numbers as for a publicly known color printer, for example, carries out scanning exposure of the photosensitive materials (photosensitive heat developing material) by a laser beam, and performs a development. An electro photographic printer, an ink-jet printer, a thermal head printer, a heat mode laser beam printer, a thermal transfer printer, etc. are illustrated.

[0045]In the case of a medium output, the game scene reproduced with the regeneration machine 20 is used as the output image data for image-data-recording media in this way, and is outputted to the driver 24. The driver 24 is a publicly known driver for image-data-recording media, records output image data on the image-data-recording medium R, and outputs the image-data-recording medium R. The image-data-recording medium R is carried off-line by the high-definition image displaying unit 36 by the side of a customer, the driver of the built-in which is not illustrated is loaded with it, and the read output image data is displayed as a high-definition picture. The image-data-recording medium R in particular used for this invention can mention publicly known image-data-recording media, such as a floppy disk (FD), a removable hard disk (HD), MO, CD-R, DVD, an IC memory, SmartMedia, and ZIP, etc., for example rather than is restrictive.

[0046]The reappearance image data of the game scene which was reproduced with the regeneration machine 20 in the case of the on-line output is used as the output image data for online correspondences, and is outputted to the communications network 38. The communications network 38 is a publicly known distribution network, output image data is distributed to the high-definition image displaying unit 36 or the game units 18 connected to the communications network, and the game units 18 which can display the high-definition image displaying unit 36 or a high-definition picture display output image data as a high-definition picture. In the game machine 12 of the game units 18. At the time of game execution, think as important the speed of a motion of the character in a game scene, etc., i.e., the speed of a motion as an animation, etc., and it does not raise the grace of a display image. When displaying the output image data distributed from the regeneration machine 20, it is preferred to raise spatial resolving power, density resolution, resolution, picture element density, etc., and to display a high-definition picture. In this way, a high-definition picture can be appreciated also with the game machine 12.

[0047]As mentioned above, in the printing system 10 using this invention, The output image data outputted from the regeneration machine 20, It is not what was generated from the image data of the picture of the game scene displayed on the display 14 of the game machine 12 itself. It is the image data of the more nearly high-definition picture which reproduced the game scene by which output instruction was carried out with the game machine 12 using the game software for regeneration of the same game with the regeneration machine 20, i.e., a high definition picture.

[0048]Therefore, the player can perform output instruction, such as print instruction of arbitrary game scenes [be / none of all restrictions]. As mentioned above, rather than the picture displayed on the display 14 of the game machine 12, since the print P can be substantially outputted by high definition and high definition image data, a high definition print can be outputted as compared with the print service of the conventional game screen. Or high definition

and high definition image data are recordable on the image-data-recording medium R, Or since it can distribute via the online correspondence network 38 and can display on the high-definition image displaying unit 36 or the game units 18 using these, high definition and a high definition picture can be displayed. In a printing image or a display image, flexibility of various kinds of processings, such as expansion and viewpoint change, can also improve substantially.

[0049]And since not the image data itself but the game history information on game scene reproducing information is used although the game scene by which output instruction was carried out is reproduced with the regeneration machine 20, and it is performed to it with the game machine 12, The data volume transmitted with the data volume and the online correspondence network 38 which are memorized in the memory 16 can be reduced. For this reason, when a transfer form is off-line, it is not necessary to memorize the image data itself in the memory 16. Data volume can be reduced, for example, output instruction, such as print instruction of several Oshi's game scene, can be memorized in the one memory 16 as compared with the former, and creation of the print P, creation of the image-data-recording medium R, and the online distribution of output image data can be requested. When a transfer form is on-line, transfer time per 1 game scene can be shortened substantially.

[0050]The print P especially outputted as mentioned above when an output form is a print may not be carried out to the usual print, for example, its limitation may be the prints (a shirt, a cup, etc.) to a seal print, a postcard, a calendar, a poster, and a solid thing, etc. It may output as a solid (3D) print. For example, the assumption picture which shifted the viewpoint like the picture for right eyes and the picture for left eyes may be created and outputted, or it may output as a solid print which has a lenticular lens on the surface of a print.

[0051]The database 34 is connected to the printer 22 of the printing system 10 of the example of a graphic display, various kinds of information is memorized here, and it can respond to various options. For example, in [memorize the image data of a customer's face in the database 34, supply the image data to the printer 22 at the time of a print, and] the printer 22, It may process transposing the face of a game character which compounds a customer's face for the background of a game screen, etc. to a customer's face etc., and a print may be created. A character of a game screen, a picture of a scene, etc. which were printed in the past are memorized, and the print which compounded this may be outputted. The character of another game, composition of a scene, etc. are possible.

[0052]The database 34 may be connected to the regeneration machine 20, and processing of such picture composition etc. may be performed by the image processing portion 44 and/or the data processing part 46 of the regeneration machine 20, and the processing in the printer 22 and the processing in the regeneration machine 20 may be used together. The game scene regeneration machine of the 1st mode of this invention and the game scene regeneration system of the 2nd mode of this invention are constituted as mentioned above fundamentally.

[0053]Next, with reference to drawing 3, the game scene regeneration system of the 3rd mode of this invention is explained. The game scene regeneration system (henceforth a regeneration system) 50 shown in drawing 3, Except for the printing system 10 shown in drawing 1, and the point that two or more game units 18 are connected to the regeneration machine 20 via the online correspondence network 38, since it is the same, the same reference mark is given to the same component, and the detailed explanation is omitted to it.

[0054]In the regeneration system 50 shown in drawing 3, the game machine 12 for every game units 18 of two or more players is connected via the communications networks 38, such as the Internet. Here, as for two or more players connected via the communications network 38, it is preferred that it is Memba registered beforehand. The communications network 38 is a two-way communication network, and it is preferred between the game machine 12 of two or more game units 18, and the regeneration machine 20 for two-way communication to be possible. In the regeneration system 50 shown in drawing 3, First, when [of two or more players] one person clears a predetermined condition at least, The game scene reproducing information of the game scene of the player of others in a clearance time is transmitted to game scene reproducing information and a pan including the game history information which carried out output specification by communications network 38 course at the regeneration machine 20 if needed

from the game machine 12 of the game units 18 of the player.

[0055]Next, based on two or more output specification information and game history information of game scene reproducing information on a player of a one player and other players at least, the regeneration machine 20, accepting necessity in the synthetic reappearance picture acquired by reproducing the game scene of two or more players, and compounding in the reappearance picture of one sheet -- image processing -- and/or, data processing being carried out and, According to an output form, output the image data of the synthetic reappearance picture, and the print P of a synthetic reappearance picture is outputted from the printer 22, Or the image-data-recording medium R by which the image data of the synthetic reappearance picture was recorded from the driver 24 is outputted, or it distributes to two or more game machines 12 or display units which are not illustrated of each game units 18 of a player via the communications network 38. As for the synthetic reproduced image outputted or its image data, at this time, it is preferred that they are a picture more nearly high-definition than the display image of the game machine 12 and its image data. Or based on the one output specification information and game history information of game scene reproducing information on a player at least, the regeneration machine 20, accepting necessity in the reappearance picture acquired by reproducing the game scene of a one player, or reproducing the game scene of two or more players, and compounding in the reappearance picture of one sheet -- image processing -- and/or, data processing being carried out and, The image data of the reappearance picture is distributed to the game machine 12 of each game units 18 of two or more players. Then, the game machine 12 of each game units 18 of two or more players which received the image data of the reappearance picture displays the reappearance picture on each display 14.

[0056]The reappearance picture created in this regeneration system 50 may be created based on the game scene reproducing information of a one player, combines the reappearance picture reproduced based on the game scene reproducing information of two or more players, and may be created. First, the case where the reappearance (it compounded) picture which summarized the game scene of Memba registered beforehand is created is explained concretely. As for the predetermined condition information on whether it is supposed that it is the scene (scene) which cleared what kind of game condition (game scene), at this time, it is preferred to set up as group registration information beforehand.

[0057]First, in the 1st method, everybody perform the same game suitably with each game machine 12, and transmit the game scene reproducing information (scene edit data) of the game scene at the time of fulfilling the predetermined conditions decided within the group to the regeneration machine 20 of service industry companies, such as a lab. A service industry company performs picture creation processings (reappearance, composition, etc.) in the stage for which the scene edit data for predetermined Memba gathered. In this way, for example in the game scene which cleared the specific screen in a game, the picture created can mention the picture etc. which were sorted according to lapsed time or points. the mug shot picture and face picture of each Memba which are registered into this sorting picture further beforehand are combined, or it inserts in as a character in a game -- processing application may be carried out.

[0058]Next, the 2nd method is the method of creating the aggregate image of the game scene of each Memba in prescribed timing. In this method, each Memba carries out synchronization of the same game with each game machine 12. Transmitting the scene edit data of each one of game machines 12 of each to a service industry company is always continued in real time. Here, the aggregate image of the game scene of all the Memba in the time of one person of Memba clearing the specific scene of a game or a game is created. Scene edit data may not be transmitted to a service industry company in real time in this case, but the scene edit data of the time of the everybody of all the Memba once clearing the specific scene of a game or a game may be collected, and it may create on the basis of the timing (lapsed time) which the earliest person cleared. It may sort like the above.

[0059]The 3rd method accumulates results, such as the number of championships in Memba, and a comprehensive (accumulation) score, in the database 28 by the side of a service industry company as data for groups, may read them from the database 28 at the time of picture creation, and may compound results, such as the number of championships and a composite

score, in a creation picture. In this way, the synthetic reappearance picture and aggregate image which were created, It is outputted as the print P from the printer 22, is outputted as the image-data-recording medium R which recorded the image data from the driver 24, or distributes via the communications network 38 as the image data, and is displayed on the game machine 12 or the display unit which is not illustrated. In this way, in this regeneration system 50, since the aggregate image which the ranking and the results between Memba understand can be created, the enjoyableness of each player in Memba can be raised.

[0060]When the game machine 12 of the game units 18 of two or more Memba is connected with the regeneration machine 20 with the two-way communication network 38, It is preferred to transmit the reappearance picture created from the service industry company side, such as a lab, to each Memba to the predetermined timing at the time of one someone in Memba clearing a prescribed scene etc. For example, when the player of one person in Memba clears a game or a predetermined game scene first, The player the output instruction information and the game scene reproducing information to carry out of the game scene via the communications network 38, A game scene is reproduced based on the game scene reproducing information which transmitted to the service industry company's regeneration machine 20, and was transmitted in the regeneration machine 20, The image data of the reappearance picture of the reproduced game scene is transmitted to the game machine 12 of the game units 18 of each Memba via the communications network 38, and a reappearance picture is displayed on the display 14 based on the transmitted image data in the game machine 12 of each Memba. In this way, in this regeneration system 50, the competitive spirit of each player can be raised and enjoyableness can be raised.

[0061]As mentioned above, although the game scene regeneration machine and system of this invention were explained in detail, in the range which limitation is not carried out to the example of the above-mentioned versatility [this invention], and does not deviate from the gist of this invention, what may make various kinds of improvement and change is natural.

[Translation done.]

* NOTICES *

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1.This document has been translated by computer. So the translation may not reflect the original precisely.

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3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a notional block diagram of one example of the printing system using the game scene regeneration machine of this invention.

[Drawing 2]It is a notional block diagram of one example of the game scene regeneration machine shown in drawing 1.

[Drawing 3]It is a notional block diagram of one example of the game scene regeneration system of this invention.

[Description of Notations]

10 Printing system

12 Game machine

14 Display

16 Memory

18 Game units

20 Game scene regeneration machine

22 Printer

24 Driver

26 Controller

28 and 34 Database

30 Data input device

32 Game software supply source

36 High-definition image displaying unit

38 Online correspondence network

40 Receipt part

42 Reappearance part

44 Image processing portion

46 Data processing part

48 Image data converter

50 Game scene regeneration system

[Translation done.]

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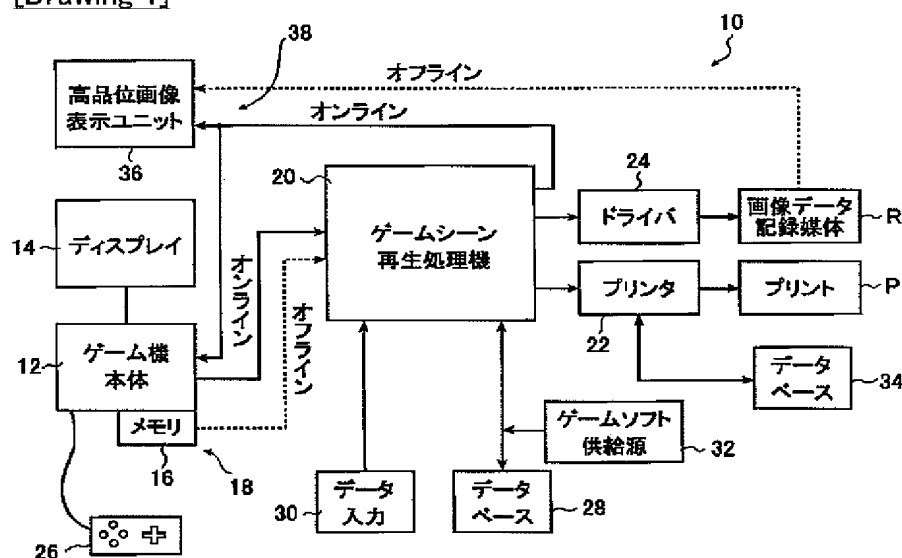
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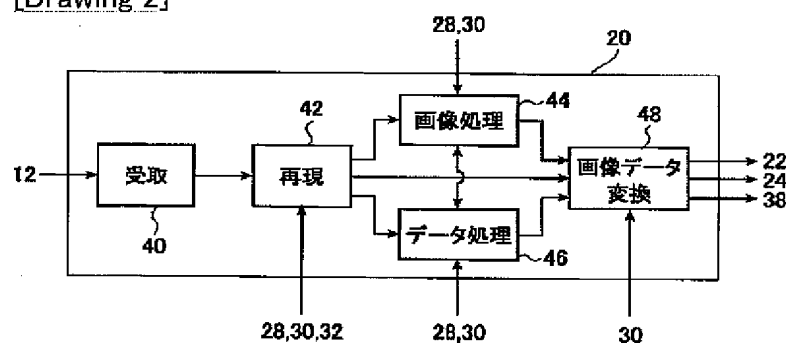
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DRAWINGS

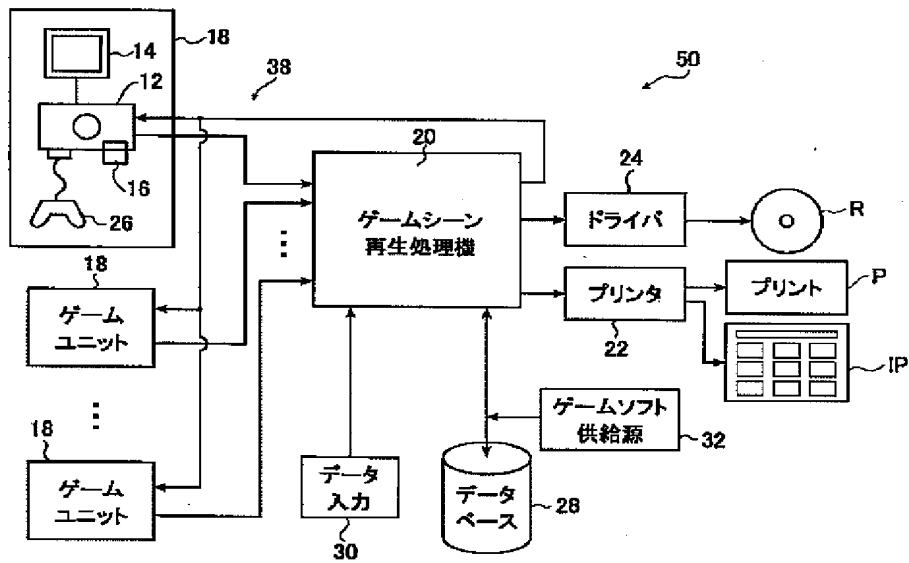
[Drawing 1]



[Drawing 2]



[Drawing 3]



[Translation done.]

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CORRECTION OR AMENDMENT

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[Amendment 1]

[Document to be Amended]Specification

[Item(s) to be Amended]0034

[Method of Amendment]Change

[The contents of amendment]

[0034]

The regeneration machine 20 of this invention equips with the memory 16, as shown in drawing 2, The receipt part 40 which receives and reads the game scene reproducing information which read game scene reproducing information from the memory 16 with which it was equipped, or has been transmitted via the online correspondence network 38 from the game machine 12 (or the memory 16), Software for regeneration of the same game as the game by which output instruction was carried out based on the output instruction information of game scene reproducing information is performed, The reappearance part 42 which reproduces the game scene by which output instruction was carried out using game history information, and generates the image data or scene constitution data (for example, data of polygonal representation) of a reappearance picture, The image processing portion 44 which performs predetermined image processing to the image data of a reappearance picture, and the data processing part 46 which performs data processing, such as special finish processing and regeneration from a different viewpoint, to the image data of the back before image processing, It has the image data converter 48 which changes the image data after image processing or data processing into the image data according to an output form.

[Amendment 2]

[Document to be Amended]Specification

[Item(s) to be Amended]0035

[Method of Amendment]Change

[The contents of amendment]

[0035]

The game software for regeneration which the reappearance part 42 of the regeneration machine 20 has or performs for game scene reappearance, It may not be limited to one, but even if the reappearance part 42 has two or more game software, right [of it] may be carried out, and of course, two or more game software may be performed. Such game software for regeneration, Even if memories, such as a hard disk which the regeneration machine 20 has, memorize, Having been connected to the regeneration machine 20 may memorize at the database 28, Storages, such as CD-ROM with which it can load, the data input device 30, for example, the storage driver, of the regeneration machine 20, MO (optical magnetic recording medium), FD, and removable HD, may memorize.

In being the game software which the recording medium with which the game software which neither the reappearance part 42 nor the database 28 holds, and the data input device 30 are loaded is not recording, Based on the game identification information of the game history information on game scene reproducing information, The game software for regeneration may be downloaded via communications networks, such as the Internet, from the game software supply source 32, for example, the maker of an applicable game, or the database of a game providing facility. It may enable it to use what was memorized by the database 34 connected to the printer 22 further again. Of course, various methods mentioned above may be used together.

[Amendment 3]

[Document to be Amended]Specification

[Item(s) to be Amended]0057

[Method of Amendment]Change

[The contents of amendment]

[0057]

First, in the 1st method, everybody perform the same game suitably with each game machine 12, and transmit the game scene reproducing information (scene edit data) of the game scene at the time of fulfilling the predetermined conditions decided within the group to the regeneration machine 20 of service industry companies, such as a lab. A service industry company performs picture creation processings (reappearance, composition, etc.) in the stage for which the scene

edit data for predetermined Memba gathered.

In this way, for example in the game scene which cleared the specific screen in a game, the picture created can mention the picture etc. which were sorted according to lapsed time or points. The mug shot picture and face picture of each Memba which are registered into this sorting picture further beforehand may be combined, or the processing inserted in as a character in a game may be applied.

[Translation done.]